# OCPI versions explained

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# OCPI versions explained

## July 2017- Oct 2021

**2.1.1**

- Released July 2017
- Contained all basic modules for CPO-MSP communication.

## Oct 2021 – Feb 2025

**2.2.1**

- Successor of 2.1.1
- Released Oct 2021
- Doc update Sept 2023
- Solved some 2.1.1 errors
- Added Hub support
- Added Charge Profiles

## Feb 2025 - onwards

**2.3.0**

Main version Required for NAPs

- **Legislation update**
- Added data for EU **N**ational **A**cces **P**oints
- Added Vehicle types for chargers
- Added different tax levels for tariffs
- Extensible

## To be released – H2 2025

**3.0**

- **Architectural update**
- Split static/dynamic data
- Improved efficiency
- Improved security
- Different tariff setup
- Extended V2X services
- Release H2 2025

# OCPI Modules

- Versions module

- Credentials module

- Locations module

- Sessions module

- CDRs module (incl. invoice reconcilliation)

- Tariffs module

- Tokens module

- Commands module

- ChargingProfiles module

- HubClientInfo module

- Payments module (from v2.2.1 and further)

- Booking module (from v2.3 and further)

# OCPI Modules – explained 1/3

**Versions module**

- This is the required base module of OCPI. This module is the starting point for any OCPI connection. Via this module, clients can learn which versions of OCPI a server supports, and which modules it supports for each of the versions

**Credentials module**

- The credentials module is used to exchange the credentials token that has to be used by parties for authorization of requests

**Locations module**

- The Location objects live in the CPO back-end system. They describe the charging locations of an operator.

**Sessions module**

- The Session object describes one charging session. The Session object is owned by the CPO back-end system, and can be GET from the CPO system, or pushed by the CPO to another system.

# OCPI Modules – explained 2/3

**CDRs module (incl invoice reconcilliation)**

- A Charge Detail Record is the description of a concluded charging session. The CDR is the only billing-relevant object. CDRs are sent from the CPO to the eMSP after the charging session has ended. It is possible to create credit CDRs and Invoice reconciliation can be used to check if the right CDRs are put on the invoice.

**Tariffs module**

- The Tariffs module gives eMSPs information about the tariffs used by the CPO. Tariffs can be very complex EVRoaming Foundation wrote a Guide: How to deal with tariffs, which is available from the website.

**Tokens module**

- The tokens module gives CPOs knowledge of the token information of an eMSP.

**Commands module**

- The Commands module enables remote commands to be sent to a Location/EVSE. This can be to start of stop a session, but also for immediate reservation or to unlock a connector.

# OCPI Modules – explained 3/3

**ChargingProfiles module**

- With the ChargingProfiles module, parties (SCSP but also MSPs) can send (Smart) Charging Profiles to a Location/EVSE. It is also possible to request the 'ActiveChargingProfile' from a Location/EVSE

**HubClientInfo module**

- This module provides parties connected to a hub with the connection status of other parties that are connected to a hub that they can communicate with. So, CPOs know which eMSP and other parties are online and vice versa. Unlike the usual OCPI modules, this module is between eMSP/CPO and Hub instead of between eMSP and CPO.

**Payments module**

- This module support the (remote) Payment Terminal usage for direct payment

**Booking module**

- Support for eMSPs to book charging stations at charge point or location level, get information about the available booking options and timeslots the CPO offers. Support of all kind of booking related fees, including no-show fees.

# OCPI Modules – minimum implementations

The EVRoaming Foundation considers the following module implementations as base for stating that an organisation implemented OCPI. If only a few of the modules are implemented, this is not seen as OCPI implementation.

| Module | CPO - MSP | Nav Service Prov. | National Access Point | Remarks |
|---|---|---|---|---|
| Versions | Must | Must | Must | |
| Credentials | Must | Must | Must | |
| Locations | Must | Must | Must | |
| Sessions | Must | | | Mandatory according to consumer laws to show charging status during session |
| CDRs | Must | | | |
| Tariffs | Must | Optional | Must | |
| Tokens | Must | | | |
| Commands | Optional | | | Highly recommended for all parties who offer remote access to charging stations |
| ChargingProfiles | Optional | | | Highly recommended for Smart Charging |
| HubClientInfo | Optional | | | Recommended in case of roaming hub connection. |
| Payments | Optional | | | Recommended for remote payment terminals |
| Booking (only 2.3) | Optional | | | |

# Thank you !

More information:
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